



Grass Trimmer/Brush Cutter

Operator's Manual

MODEL

SRM - 210U

WARNING ! DANGER



The muffler or catalytic muffler and surrounding cover may become extremely hot.

Always keep clear of exhaust and muffler area, otherwise serious personal injury may occur.

WARNING !

The engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

WARNING ! DANGER



Read rules for safe operation and instructions carefully. ECHO provides an Operator's Manual and a Safety Manual. Both must be read and understood for proper and safe operation.

INTRODUCTION

Welcome to the ECHO family. This ECHO product was designed and manufactured to provide long life and on-the-job dependability. Read and understand this manual and the SAFETY MANUAL you found in the same package. You will find both easy to use and full of helpful operating tips and SAFETY messages.

THE OPERATOR'S MANUAL

Read and understand this manual before operation. Keep it in a safe place for future reference. Contains specifications and information for operation, starting, stopping, maintenance, storage and assembly specific to this product.

THE SAFETY MANUAL

Read and understand this manual before operation. Keep it in a safe place for future reference. Explains possible hazards involved with the use of trimmer/brushcutters and the measures you should take to make their use safer.

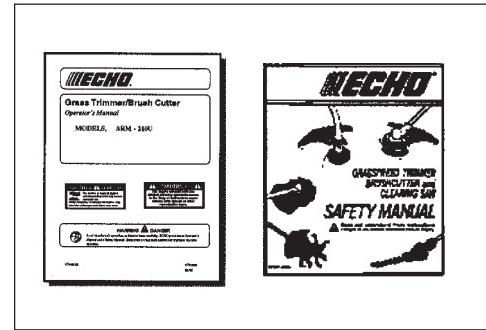


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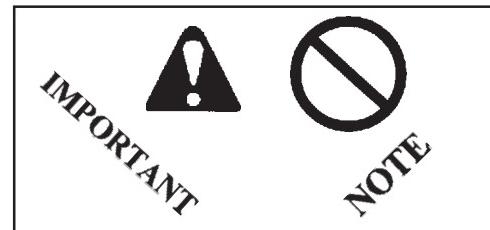
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Specifications, descriptions and illustrative material in this literature are as accurate as known at the time of publication, but are subject to change without notice. Illustrations may include optional equipment and accessories, and may not include all standard equipment.

SAFETY

MANUAL SAFETY SYMBOLS AND IMPORTANT INFORMATION

Throughout this manual and on the product itself, you will find safety alerts and helpful, informational messages preceded by symbols or key words. The following is an explanation of those symbols and key words and what they mean to you.



This symbol accompanied by the words **WARNING** and **DANGER** calls attention to an act or condition that can lead to serious personal injury to operator and bystanders.

IMPORTANT
The enclosed message provides information necessary for the protection of the unit.



The circle with the slash symbol means whatever is shown within the circle is prohibited.

NOTE
This enclosed message provides tips for use, care and maintenance of the unit.

INTERNATIONAL SYMBOLS

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	"WARNING, SEE OPERATOR'S MANUAL"		Hot Surface
	Wear eye, ear and head protection		Finger Severing
	Wear hand and foot protection		DO NOT allow flames or sparks near fuel.
	Safety/Alert		DO NOT smoke near fuel.
	Keep bystanders and helpers away 15 m (50 ft.).		

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	Emergency Stop		Fuel and oil mixture
	Carburetor Adjustment - High speed mixture		Primer Bulb
	Carburetor Adjustment - Idle speed		Ignition ON/OFF
	Carburetor Adjustment - Low speed mixture		Do not use blades. String line only
	Choke Control "Run" Position (Choke Open)		Choke Control "Cold Start" Position (Choke Closed)

PERSONAL CONDITION AND SAFETY EQUIPMENT

WARNING **DANGER**

Users of this product risk injury to themselves and others if the unit is used improperly and/or safety precautions are not followed. Proper clothing and safety gear must be worn when operating unit.

Physical Condition

Your judgment and physical dexterity may not be good:

- if you are tired or sick,
- if you are taking medication,
- if you have taken alcohol or drugs.

Operate unit only if you are physically and mentally well.

Eye Protection

Wear eye protection that meets ANSI Z87.1 or CE requirements whenever you operate the unit.

Hand Protection

Wear no-slip, heavy-duty work gloves to improve your grip on the handle. Gloves also reduce the transmission of machine vibration to your hands.

Hearing Protection

ECHO recommends wearing hearing protection whenever unit is used.

Proper Clothing

Wear snug fitting, durable clothing;

- Pants should have long legs, shirts with long sleeves.
- **DONOTWEARSHORTS,**
- **DONOTWEARTIES, SCARFS, JEWELRY.**

Wear protective hair covering to contain long hair.

Wear sturdy work shoes with nonskid soles;

- **DONOTWEAROPEN TOED SHOES,**
- **DONOTOPERATE UNIT BAREFOOTED.**

Hot Humid Weather

Heavy protective clothing can increase operator fatigue which may lead to heat stroke. Schedule heavy work for early morning or late afternoon hours when temperatures are cooler.

Extended Operation/Extreme Conditions

It is believed that a condition called Raynaud's Phenomenon, which affects the fingers of certain individuals, may be brought about by exposure to vibration and cold. Exposure to vibration and cold may cause tingling and burning sensations, followed by loss of color and numbness in the fingers. The following precautions are strongly recommended, because the minimum exposure, which might trigger the ailment, is unknown.

- Keep your body warm, especially the head, neck, feet, ankles, hands, and wrists.
- Maintain good blood circulation by performing vigorous arm exercises during frequent work breaks, and also by not smoking.
- Limit the hours of operation. Try to fill each day with jobs where operating the unit or other hand-held power equipment is not required.
- If you experience discomfort, redness, and swelling of the fingers followed by whitening and loss of feeling, consult your physician before further exposing yourself to cold and vibration.

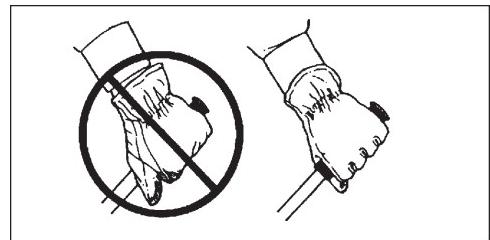


Repetitive Stress Injuries

It is believed that overusing the muscles and tendons of the fingers, hands, arms, and shoulders may cause soreness, swelling, numbness, weakness, and extreme pain in those areas. Certain repetitive hand activities may put you at a high risk for developing a Repetitive Stress Injury (RSI). An extreme RSI condition is Carpal Tunnel Syndrome (CTS), which could occur when your wrist swells and squeezes a vital nerve that runs through the area. Some believe that prolonged exposure to vibration may contribute to CTS. CTS can cause severe pain for months or even years.

To reduce the risk of RSI/CTS, do the following:

- Avoid using your wrist in a bent, extended, or twisted position. Instead try to maintain a straight wrist position. Also, when grasping, use your whole hand, not just the thumb and index finger.
- Take periodic breaks to minimize repetition and rest your hands.
- Reduce the speed and force with which you do the repetitive movement.
- Do exercise to strengthen the hand and arm muscles.
- Immediately stop using all power equipment and consult a doctor if you feel tingling, numbness, or pain in the fingers, hands, wrists, or arms. The sooner RSI/CTS is diagnosed, the more likely permanent nerve and muscle damage can be prevented.



WARNING ! DANGER

Do not operate this product indoors or in inadequately ventilated areas. Engine exhaust contains poisonous emissions and can cause serious injury or death.

Read the Manuals

- Provide all users of this equipment with the Operator's Manual and Safety Manual for instructions on Safe Operation.

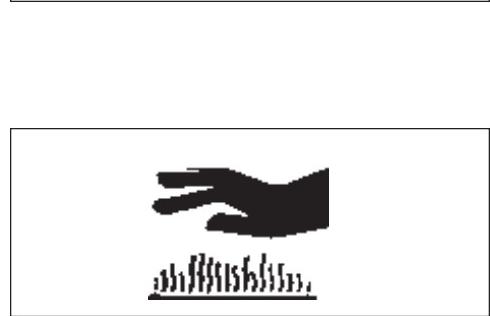


Clear the Work Area

- Spectators and fellow workers must be warned, and children and animals prevented from coming nearer than 15 m (50 ft.) while the unit is in use.

Keep a Firm Grip

- Hold the front and rear handles with both hands, with thumbs and fingers encircling the handles.



Keep a Solid Stance

- Maintain footing and balance at all times. Do not stand on slippery, uneven or unstable surfaces. Do not work in odd positions or on ladders. Do not over reach.

Avoid Hot Surfaces

- Keep exhaust area clear of flammable debris. Avoid contact during and immediately after operation.

EQUIPMENT

WARNING DANGER

Use only ECHO approved attachments. Serious injury may result from the use of a non-approved attachment combination. ECHO, INC. will not be responsible for the failure of cutting devices, attachments or accessories which have not been tested and approved by ECHO. Read and comply with all safety instructions listed in this manual and safety manual.

- Check unit for loose/missing nuts, bolts, and screws. Tighten and/or replace as needed.
- Inspect fuel lines, tank, and area around carburetor for fuel leaks. DO NOT operate unit if leaks are found.
- Inspect shield for damage and ensure that the cut-off knife is securely in place. Replace if either is damaged or missing.
- Check that the cutting attachment is firmly attached and in safe operating condition.
- Check that front loop handle and shoulder strap/ or shoulder/waist harness are adjusted for safe, comfortable operation. See Assembly Section for proper adjustment.

EMISSION CONTROL

EPA Phase 2

The emission control system for these engines is EM/TWC (Engine Modification and Catalyst).

An Emission Control Label is located on the engine. (This is an EXAMPLE ONLY, information on label varies by engine FAMILY).

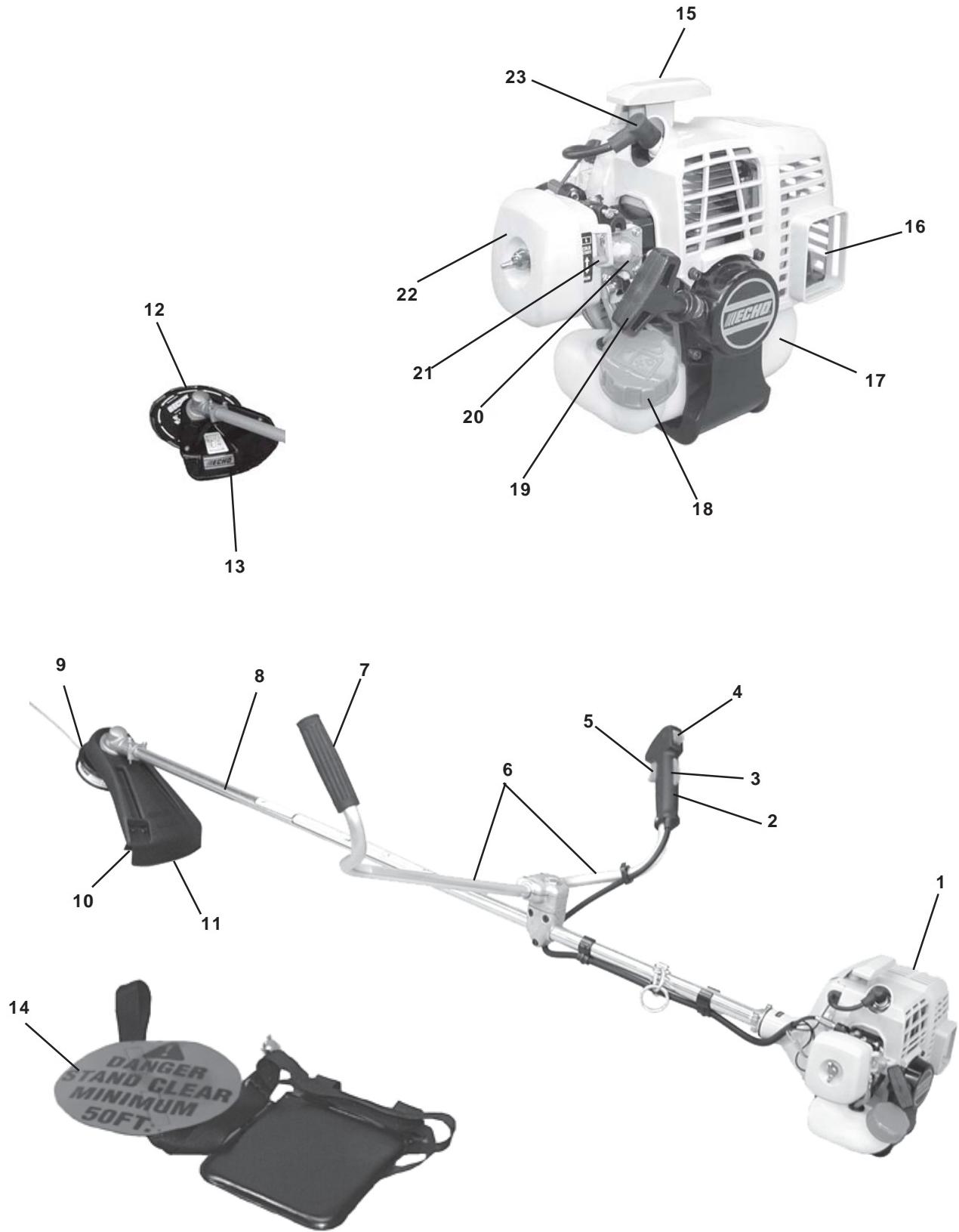
IMPORTANT ENGINE INFORMATION
ENGINE FAMILY: 6EHXS.0214KF DISPLACEMENT: 21.2 cc
EMISSION COMPLIANCE PERIOD: 300 Hours
THIS ENGINE MEETS U.S. EPA PH2 AND 2005 - 2006
CALIFORNIA EMISSION REGULATIONS FOR SOREs.
REFER TO OWNER'S MANUAL FOR MAINTENANCE
SPECIFICATIONS AND ADJUSTMENTS.



PRODUCT EMISSION DURABILITY

The 300 hour emission durability period is the time span selected by the manufacturer certifying the engine emissions output meets applicable emissions regulations, provided that approved maintenance procedures are followed as listed in the Maintenance Section of this manual.

DESCRIPTION



Locate these safety decals on your unit. Make sure the decals are legible and that you understand and follow the instructions on them. If a decal cannot be read, a new one can be ordered from your ECHO dealer. See PARTS ORDERING instructions for specific information.

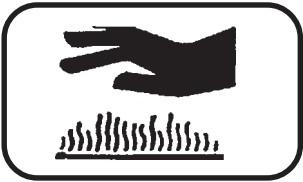
Shaft Decal
Spanish Decal

P/N 89016054130



Hot Decal (near muffler)

P/N 89016006361



Debris Shield Decal

P/N 89016841031



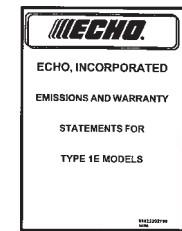
1. **POWER HEAD** - Includes the Engine, Clutch, Fuel System, Ignition System, and Recoil Starter.
2. **RIGHHANDGRIP**
3. **THROTTLE TRIGGER LOCKOUT** - This lever must be held during acceleration. Operation of the throttle trigger is prevented unless throttle trigger lockout lever is engaged.
4. **STOP SWITCH** - "SLIDE SWITCH" mounted on top of the Throttle Trigger Housing. Move switch FORWARD to RUN, BACK to STOP.
5. **THROTTLE TRIGGER** - Controls engine speed. Spring loaded to return to idle when released. During acceleration, press trigger gradually for best operating technique.
6. **U-HANDLE** - Provides secure two-handed control of trimmer/brushcutter. Required for metal blade operation.
7. **LEFHANDGRIP**
8. **DRIVE SHAFT ASSEMBLY** - Includes Gear Housing assembly, Blade attachment parts, Flexible Drive Cable and Safety Decal.
9. **NYLON CUTTING ATTACHMENT** - Contains replaceable nylon trimming line that advances when the trimmer head is tapped against the ground while the head is turning at normal operating speed.
10. **CUT-OFF KNIFE** - Automatically trims line to the correct length (5 in.) after head is tapped on the ground while nylon cutting attachment is turning. If trimmer is operated without a cut-off knife, the line will become too long, the engine will overheat and engine damage may occur.
11. **PLASTIC DEBRIS SHIELD ASSEMBLY** - Deflects debris. **MUST** be installed on unit before Nylon Line Head use (See Assembly Instructions). Shield assembly includes the Cut-Off Knife and Safety Decal. Mounts on the Gear Housing Assembly just above the cutting attachment. Helps protect the operator by deflecting debris produced during the trimming operation. This shield must be replaced with the steel shield for blade use.
12. **BLADES** - Circular steel blades for grass, weeds, or brush cutting applications. (Harness, metal shield, and U-handle required for blade operation.)
13. **METAL BLADE SHIELD** - Required when unit is equipped with blades. Do not operate unit without shield.
14. **SHOULDER HARNESS WITH HIP PAD** - An adjustable shoulder strap that suspends the unit from the operator's shoulder. Using the strap reduces operator fatigue and enhances safety. Hip pad helps protect hip/leg and clothing when using U-handle equipped units.
15. **TOP GUARD** - Protects operator's arm from the hot engine during normal operation.
16. **SPARKARRESTOR-CATALYTIC MUFFLER/MUFFLER** - The muffler or catalytic muffler controls exhaust noise and emission. The spark arrestor screen prevents hot, glowing particles of carbon from leaving the muffler. Keep exhaust area clear of flammable debris.
17. **FUEL TANK** - Holds fuel and contains the fuel filter.
18. **FUEL TANK CAP** - Covers and seals fuel tank opening.
19. **RECOIL STARTER HANDLE** - Starts engine. Pull handle slowly until starter engages, then quickly and firmly. When engine starts, return handle slowly. DO NOT let handle snap back or damage to unit will occur.
20. **PURGE BULB** - Pumping purge bulb before starting engine draws fresh fuel from the fuel tank, purging air from the carburetor. Pump purge bulb until fuel is visible and flows freely in the clear fuel tank return line. Pump purge bulb an additional 4 or 5 times.
21. **CHOKE** - Adjusts Fuel/Air ratio for starting or running engine. The choke control is located at the top of the air filter case. Move choke lever to "Cold Start" (▲) to close choke for cold starting. Move choke lever to "Run" (▼) position to open choke.
22. **AIR CLEANER** - Filters out dirt and debris in air. Contains replaceable filter element.
23. **SPARKPLUG** - Provides spark to ignite fuel mixture.

CONTENTS

Your new Echo product has been factory pre-assembled for your convenience. Due to packaging restrictions, shield installation and other final assembly may be necessary.

Check the contents carefully, and notify your retailer or ECHO Dealer immediately if any parts are missing or damaged. Use the contents list below to check for missing parts.

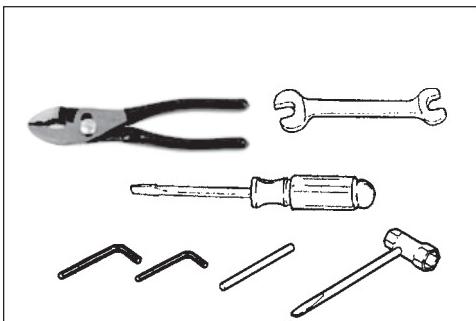
- ____ 1 - Power Head
- ____ 1 - Drive Shaft Assembly w/Gear Housing
- ____ 1 - Nylon Trimmer Head
- ____ 1 - Plastic Debris Shield
- ____ 1 - Shield Plate
- ____ 3 - 5 mm x 16 mm screws (Shield Plate-Gear Case)
- ____ 1 - Metal Shield
- ____ 1 - Metal Shield Bracket
- ____ 2 - 5 mm x 8 mm screws (Bracket-Shield)
- ____ 4 - 5 mm nuts (Bracket-Shield & Gear Case)
- ____ 4 - 5 mm lockwashers (Bracket-Shield & Gear Case)
- ____ 1 - 8 Tooth Weed/Grass Blade
- ____ 1 - Shoulder Harness With Hip Pad
- ____ 1 - U-Handle Assembly
- ____ 1 - 8 mm hex head bolt
- ____ 1 - 8 mm flat washer
- ____ 10 - 2 mm x 25 mm Cotter pins
- ____ 2 - Plastic cable clips
- ____ 1 - Combination Socket/Screwdriver Tool (Scrunch)
- ____ 1 - Locking Tool
- ____ 1 - 3 mm "L" hex wrench
- ____ 1 - 4 mm "L" hex wrench
- ____ 1 - Operator's Manual
- ____ 1 - Safety Manual
- ____ 1 - Warranty Registration Card
- ____ 1 - Limited Warranty Statement
- ____ 1 - Safety Glasses
- ____ 1 - Echo Power Blend™ 2-stroke oil sample



ASSEMBLY**PLASTIC SHIELD INSTALLATION**

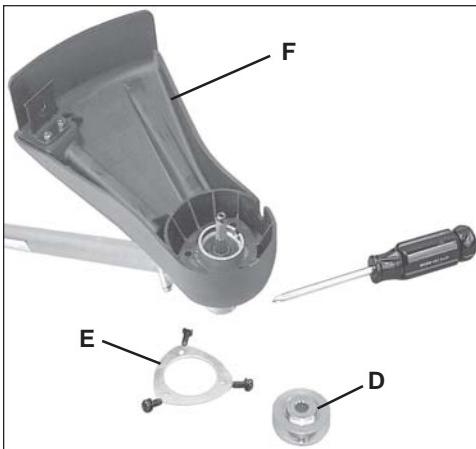
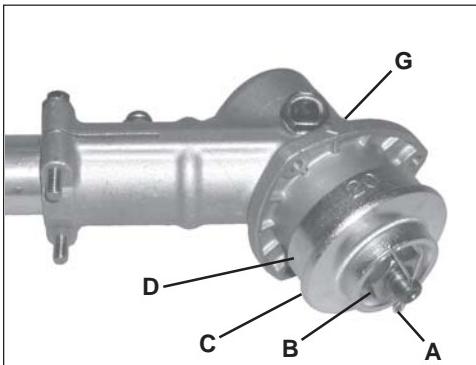
Tools Required: Screwdriver, Locking Tool, 17x19 mm T-Wrench, 8 x 10 mm Open-end Wrench, 3 and 4 mm Hex Wrench, Pliers

Parts Required: Plastic Debris Shield, Shield Plate, three (3) 5 x 16 mm screws


WARNING  DANGER

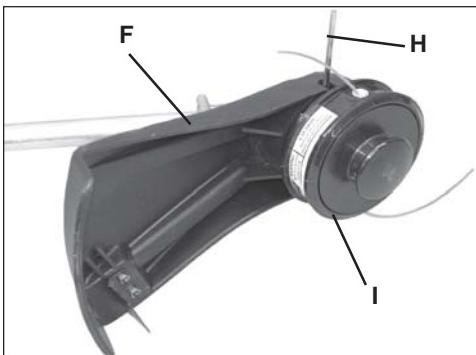
The plastic shield is for use with the Nylon Line Head only. Install Metal Shield when using plastic or metal blades, or serious injury may result.

1. Align hole in upper plate (D) with notch in gear housing (G), and insert locking tool to prevent splined shaft from turning. Arrow on gear housing flange points to notch location.
2. Remove cotter pin (A), L.H. blade nut (B), lower plate (C), and upper plate (D) from PTO shaft. Turn blade nut clockwise to remove.
3. Remove locking tool. Retain lower plate, blade nut, and cotter pin for future use with blade conversions.
4. Align plastic debris shield (F) with the drive shaft, and install on the bottom of the gear housing flange.
5. Place shield plate (E) on shield, align holes and install three (3) screws.
6. Replace upper plate (D) on PTO shaft.

**NYLON HEAD INSTALLATION**

Parts Required: Nylon Line Head.

1. Make sure plastic debris shield (F) is properly aligned, and upper plate (D) is installed on splined PTO shaft.
2. Align hole in upper plate (D) with notch in gear housing (G), and insert locking tool (H) to prevent splined shaft from turning.
3. Thread line head (I) onto PTO shaft by turning it counter-clockwise until head is tight against upper plate (D).
4. Remove locking tool.



BLADE INSTALLATION

WARNING ! DANGER

You must install the U-Handle and all Blade Conversion parts shown in the following instructions before operating this unit with metal blades, otherwise serious injury may result.

NOTE

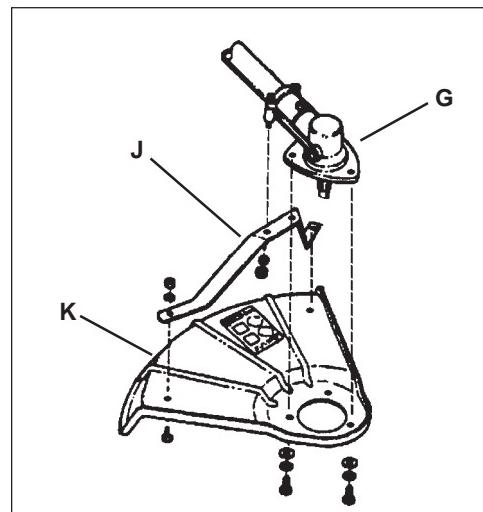
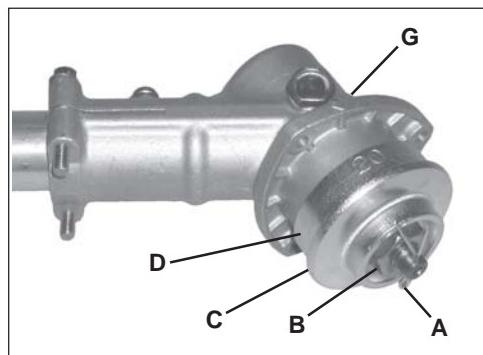
Model SRM-210U includes U-Handle, 8-tooth blade, and necessary blade conversion parts. Blades must be selected for type of cutting being performed. See page 16, "Blade Selection."

Install Metal Shield

Parts Required: Metal Shield, Shield Bracket,

3 - 5 x 16 mm screws w/captivated flat and lock-washer, (metal shield to gear housing).
 2 - 5 x 8 mm screws, 2 - 5 mm nuts, 2 - 5 mm lockwashers, (bracket to shield).
 2 - 5 mm nuts, 2 - 5 mm lockwashers
 (bracket to gear housing)

1. If installed, remove nylon line head, upper plate and plastic shield, and set upper plate aside for use with blade installation. Retain plastic shield, shield plate, and plastic shield hardware for conversion back to nylon line operation.
2. Align hole in upper plate (D) with notch in gear housing (G), and insert locking tool to prevent splined shaft from turning. Arrow on gear housing flange points to notch location.
3. Remove split pin (A), L.H. blade nut (B), lower plate (C), and upper plate (D) from PTO shaft. Turn blade nut clockwise to remove.
4. Remove locking tool.
5. Loosely attach bracket (J) to shield (K) and attach shield to bottom of gear housing (G) with hardware provided.
6. Tighten all shield hardware.



Install Blade

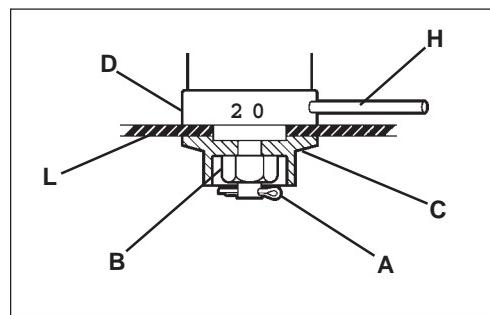
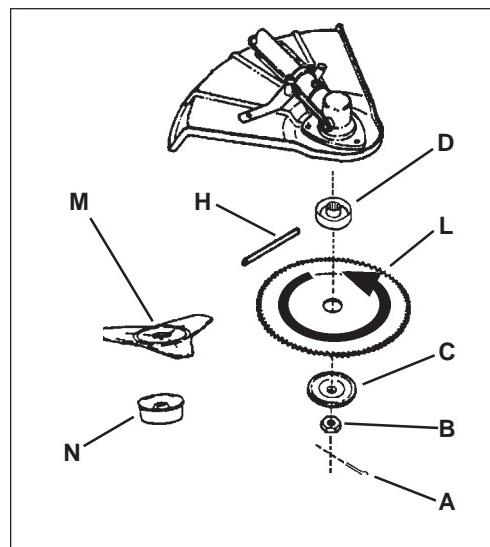
Parts Required: Upper Plate w/ 20 mm pilot, Lower Plate, 10 mm Nut w/ L.H. threads, 2 x 25 mm Cotter Pin, Blade.

1. Install upper plate (D) on splined PTO shaft, pilot side down. Blade installation requires Upper Plate (D) with 20 mm pilot.
2. Install Blade (L) on upper plate pilot. Blades must be installed so that rotation arrow on blade matches rotation of unit: teeth toward direction of rotation (See debris shield decal). Secure blade with Lower Plate (C), and 10 mm L.H. nut (B). Turn nut counter-clockwise on PTO shaft to tighten.
3. Align hole in upper plate with notch in gear housing, and insert Locking Tool (H) to prevent splined shaft from turning. Arrow on gear housing points to notch. Tighten 10 mm nut securely.
4. Insert Split Pin (A) in hole in PTO shaft, and bend pin legs around shaft counterclockwise to retain 10 mm nut.

IMPORTANT

Never reuse a cotter pin - install a new cotter pin each time a blade is installed or replaced.

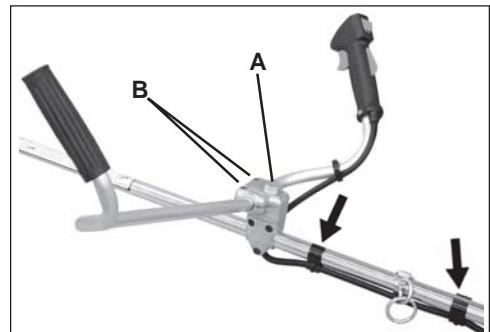
5. Tri-Cut Blade (M) is installed with Glide Cup (N).
6. Remove locking tool.



U-HANDLE INSTALLATION

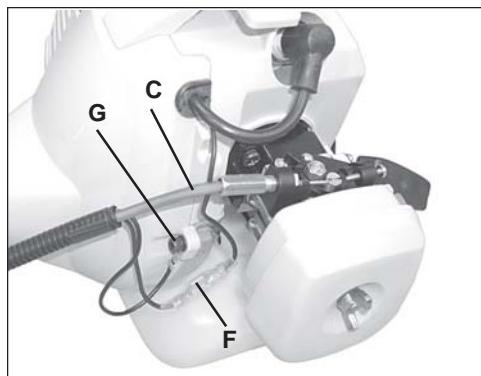
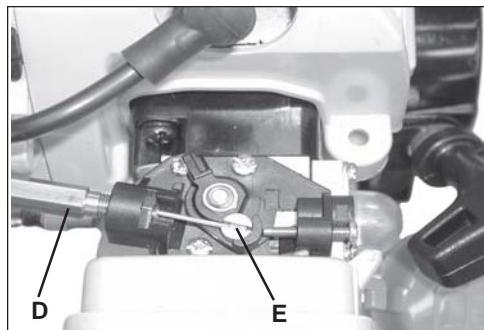
Parts Required: U-Handle, Clamp w/screws, 8 mm x 55 mm hex bolt, 8 mm flat washer

1. Install upper U-Handle and bracket on lower bracket with one (1) 8mm x 55mm bolt (A) and (1) large circular washer. Do not tighten bolt securely until final adjustments are completed.
2. Loosen upper (2) U-handle clamp screws (B), and position U-handle as shown.
3. Lightly tighten 8mm bolt (A) and clamp screws (B) to hold U-handle in position until final adjustments are completed.
4. Route throttle linkage and ignition lead assembly along shaft and clip as shown.

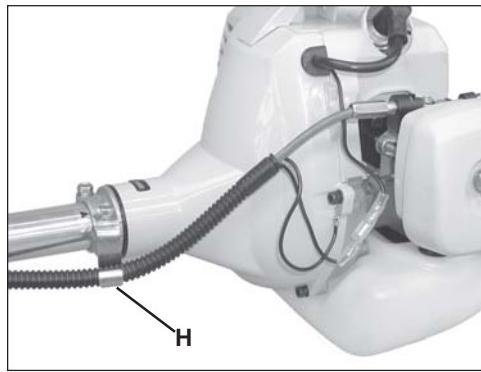


THROTTLE LINKAGE AND IGNITION LEADS

1. Place throttle linkage cable (C) through adjustment fixture (D) and install wire end into large carburetor throttle swivel hole (E). Check throttle for freedom of movement and that wide open throttle / low idle extremes are adjusted properly. The throttle linkage can be adjusted by turning the adjustment fixture (D). Consult with your Echo Dealer for correct adjustment procedure.
2. Connect ignition leads (F) and one ring terminal (G) which attaches under fan housing screw.

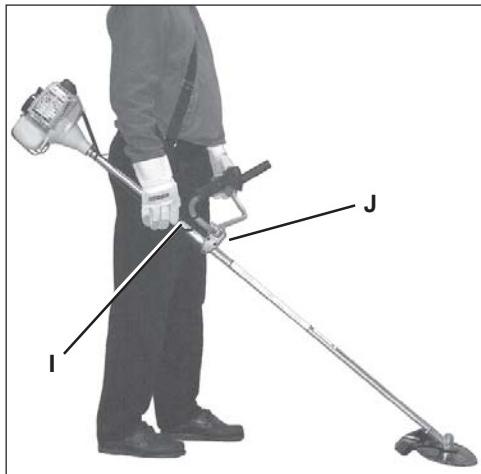


3. Install throttle linkage into bracket clamp (H) and pinch snug with pliers. Bend bracket up and flush against drive shaft.



BALANCE AND ADJUST UNIT

1. Loosen harness clamp screw.
2. Put on harness and attach unit to harness.
3. Slide harness clamp up (I) or down until unit balances with head approximately 50-75 mm (2-3 in.) from the ground.
4. Tighten harness clamp screw.
5. Loosen upper U-Handle clamp screws (J), and position U-Handle for comfortable operation.
6. Tighten U-Handle clamp screws and 8 mm clamp bolt securely.



BLADE SELECTION

WARNING DANGER

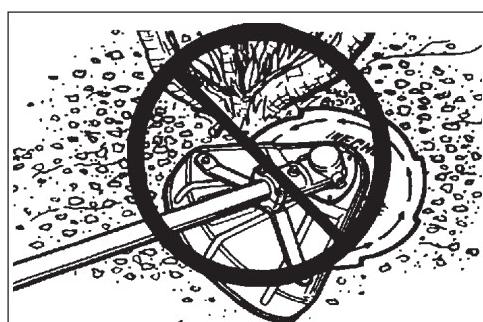
The type of Blade used **MUST** be matched to the type and size of material cut. An improper or dull blade can cause serious personal injury. Blades **MUST** be sharp. Dull blades increase the chance of kick out, and injury to yourself and bystanders.

Plastic/Nylon Blades may be used where ever the nylon line head is used. DO NOT use this blade for heavy weeds or brush!



8 Tooth Weed/Grass Blade is designed for grass, garden debris and thick weeds. DO NOT use this blade for brush or heavy woody growth, 19 mm (3/4 in.) diameter or larger.

SRM-210Series P/N 69600120331



80 Tooth Brush Blade (P/N 69500120331) is designed for cutting brush and woody growth up to 64 mm (2-1/2 in.) diameter.

22 Tooth Clearing Blade (99944200130) is designed for dense thickets and saplings up to 64 mm (2-1/2 in.) diameter.



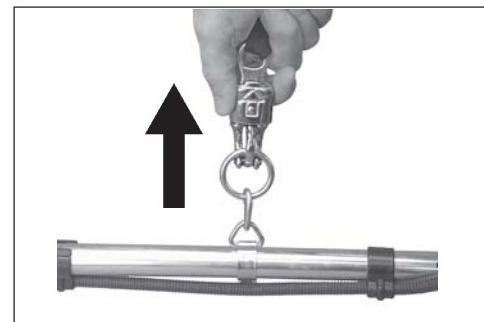
Shoulder/Waist Harness (P/N 30100052131) Use of the Shoulder/Waist Harness is recommended for **ALL** Trimmer/Brush Cutter use. The Shoulder/Waist Harness suspends the trimmer from the operator's shoulder and reduces operator fatigue.

The restrictive harness enhances operator safety by reducing the possibility of blade contact with the operator's hands and feet.



NOTE

In case of Emergency, the trimmer/brushcutter can be released from the harness by pulling up on the quick-release collar.



OPERATION

NOTICE: Use of unmixed, improperly mixed, or fuel older than 90 days, (stale fuel), may cause hard starting, poor performance, or severe engine damage and void the product warranty. Read and follow instructions in the Storage section of this manual.

FUEL

Fuel Requirements

Gasoline - Use 89 Octane [R+M/2] (mid grade or higher) gasoline known to be good quality. Gasoline may contain up to 15% MTBE (methyl tertiary-butyl ether). Gasohol containing methyl (wood) alcohol is **NOT** approved.

Two Stroke Oil - A two-stroke engine oil meeting ISO-L-EGD (ISO/CD 13738) and J.A.S.O. FC Standards must be used. Echo brand premium Power Blend™ Universal 2-Stroke Oil meets these standards. Engine problems due to inadequate lubrication caused by failure to use an ISO-L-EGD and J.A.S.O. FC certified oil, such as Echo premium Power Blend™, will void the two-stroke engine warranty. (Emission related parts only are covered for two years, regardless of two-stroke oil used, per the statement listed in the Emission Defect Warranty Explanation.)

IMPORTANT

Echo premium Power Blend™ Universal 2-Stroke Oil may be mixed at 50:1 ratio for application in all Echo engines sold in the past regardless of ratio specified in those manuals.

Handling Fuel

WARNING **DANGER**

Fuel is **VERY** flammable. Use extreme care when mixing, storing or handling or serious personal injury may result.

- Use an approved fuel container.
- DO NOT smoke near fuel.
- DO NOT allow flames or sparks near fuel.
- Fuel tanks/cans may be under pressure. Always loosen fuel caps slowly allowing pressure to equalize.
- NEVER refuel a unit when the engine is HOT or RUNNING!
- DO NOT fill fuel tanks indoors. ALWAYS fill fuel tanks outdoors over bare ground.
- DO NOT overfill fuel tank. Wipe up spills immediately.
- Securely tighten fuel tank cap and close fuel container after refueling.
- Inspect for fuel leakage. If fuel leakage is found, do not start or operate unit until leakage is repaired.
- Move at least 3m (10 ft.) from refueling location before starting the engine.

Fuel to Oil Mix - 50:1 Ratio			
U.S.		METRIC	
GAS	OIL	GAS	OIL
Gallons	Fl. oz.	Liter	cc.
1	2.6	4	80
2	5.2	8	160
5	13	20	400

Mixing Instructions

1. Fill an approved fuel container with half of the required amount of gasoline.
2. Add the proper amount of 2-stroke oil to gasoline.
3. Close container and shake to mix oil with gasoline.
4. Add remaining gasoline, close fuel container, and remix.

IMPORTANT

Spilled fuel is a leading cause of hydrocarbon emissions. Some states may require the use of automatic fuel shut-off containers to reduce fuel spillage.

After use

- DO NOT store a unit with fuel in its tank. Leaks can occur. Return unused fuel to an approved fuel storage container.

Storage - Fuel storage laws vary by locality. Contact your local government for the laws affecting your area. As a precaution, store fuel in an approved, airtight container. Store in a well-ventilated, unoccupied building, away from sparks and flames.

IMPORTANT

Stored fuel ages. Do not mix more fuel than you expect to use in thirty (30) days, ninety (90) days when a fuel stabilizer is added.

IMPORTANT

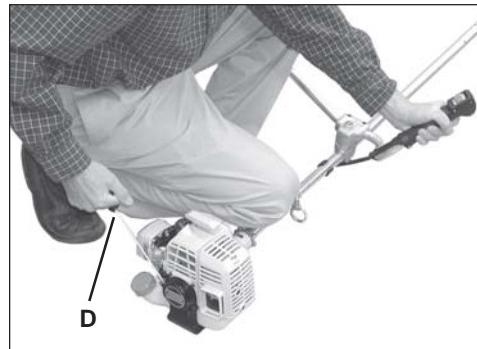
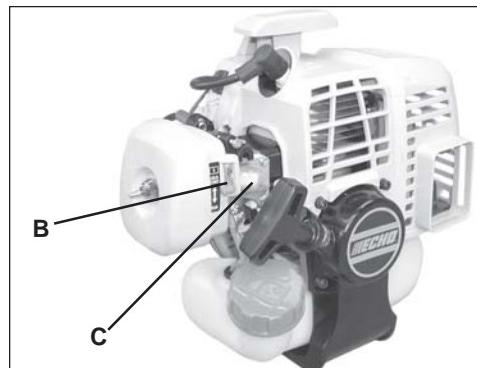
Stored two-stroke fuel may separate. **ALWAYS** shake fuel container thoroughly before each use.

STARTING COLD ENGINE

WARNING ! DANGER

The attachment will operate immediately when the engine starts and could result in loss of control and possible serious injury. Keep movable parts of the attachment off the ground and away from objects that could become entangled or thrown.

1. *Stop Switch*
Move stop switch button (A) forward away from the STOP position.
2. *Choke*
Move choke lever (B) to Cold Start Position (| ← |).
3. *Purge Bulb*
Pump purger bulb (C) until fuel is visible and flows freely in the clear fuel tank return line. Pump bulb an additional 4 or 5 times.
4. *Recoil Starter*
Lay the unit on a flat area and keep movable attachment parts clear of all obstacles. Firmly grasp right hand grip and throttle trigger lockout with left hand and fully depress throttle trigger to wide open position. Rapidly pull recoil starter handle/rope (D) until engine fires (or maximum five [5] pulls).
5. *Choke*
After engine fires (or 5 pulls), move choke lever back to Run (| → |) position. Hold throttle trigger and throttle trigger lockout fully depressed, and pull recoil starter handle/rope until engine starts and runs. Release throttle trigger, and allow unit to warm up at idle for several minutes.
6. *Throttle Trigger*
After engine warm-up, gradually depress throttle trigger to increase engine RPM to operating speed.



STARTING WARM ENGINE

The starting procedure is the same as Cold Start except DO NOT close the choke, and do not hold throttle trigger fully depressed.

WARNING **DANGER**

The attachment should not move at idle, otherwise serious personal injury may result.

NOTE

If attachment moves, readjust carburetor according to "Carburetor Adjustment" instructions in this manual or see your ECHO Dealer.

1. *Stop Switch*
Move stop switch button (A) forward away from the STOP position.



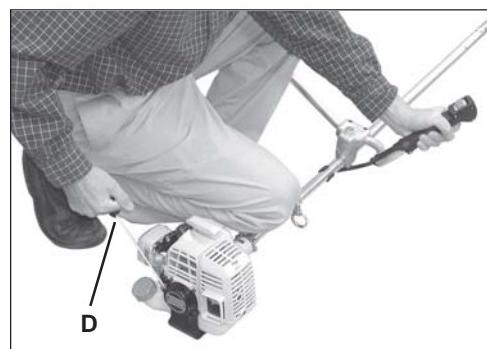
2. *Purge Bulb*
Pump purger bulb (C) until fuel is visible in the "Clear" fuel return line.



3. *Recoil Starter*
Lay the unit on a flat area and keep movable attachment parts clear of all obstacles. Rapidly pull the recoil starter handle (D) until the engine fires.

NOTE

If engine does not start after 5 pulls, use Cold Start Procedure.



STOPPING ENGINE

1. *Release Throttle.*
Allow engine to return to idle before shutting off engine.
2. *Stop Switch.*
Move stop switch button backward to STOP position.



WARNING **DANGER**

If engine does not stop when stop switch is moved to "STOP" position, move choke lever to closed "Cold Start" position to stall engine. Have your ECHO dealer repair stop switch before using trimmer again.

MAINTENANCE

Your ECHO trimmer is designed to provide many hours of trouble free service. Regular scheduled maintenance will help your trimmer achieve that goal. If you are unsure or are not equipped with the necessary tools, you may want to take your unit to an ECHO Service Dealer for maintenance. To help you decide whether you want to DO-IT-YOURSELF or have the ECHO Dealer do it, each maintenance task has been graded. If the task is not listed, see your ECHO Dealer for repairs

SKILL LEVELS

- Level 1 =** Easy to do. Most required tools come with unit.
Level 2 = Moderate difficulty. Some specialized tools may be required.
Level 3 = Experience required. Specialized tools are required. ECHO recommends that the unit be returned to your ECHO dealer for servicing.

ECHO offers **REPOWER™** Maintenance Kits and Parts to make your maintenance job easier. Below each task heading are listed the various part numbers required for that task. See your ECHO dealer for these parts.

MAINTENANCE INTERVALS

COMPONENT/ SYSTEM	MAINTENANCE PROCEDURE	REQ'D SKILL LEVEL	DAILY OR BEFORE USE	EVERY REFUEL	3 MONTHS OR 90 HOURS	6 MONTHS OR 270 HOURS	YEARLY 600 HOURS
Recommended Echo Dealer Maintenance Procedures							
Cylinder Exhaust Port	Inspect/Clean/Decarbon	3			I / C		
Do-It-Yourself Maintenance Procedures							
Air Filter	Inspect/Clean/Replace	1	I / C		R*		
Choke	Inspect/Clean	2	I / C				
Fuel Filter	Inspect/Replace	1			I		I / R *
Fuel System, leaks	Inspect/Replace	1	I *	I	I		
Cooling System	Inspect/Clean	2	I / C				
Muffler Spark Arrestor	Inspect/Replace	2			I / R *		
Drive Shaft (Flex Cable Models)	Grease	2			I (1)		
Gear Housing	Grease	2			I (2)		
Recoil Starter Rope	Inspect/Clean	1	I / C *				
Spark Plug	Inspect/Clean	2			I / C	R *	
Screws/Nuts/Bolts	Inspect/Tighten/Replace	1	I / R *				

22 ECHO

AIR FILTER

Level 1.

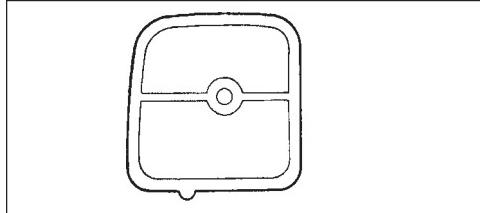
Tools required: 25 or 50 mm (1 or 2 in.) cleaning brush

Parts required: 90008 REPOWER™ AIR & FUEL FILTER KIT

1. Close choke (Cold Start Position []). This prevents dirt from entering the carburetor throat when the air filter is removed. Brush accumulated dirt from air cleaner area.
2. Remove air filter cover. Brush dirt from inside cover.
3. Remove air filter and lightly brush debris from filter. Replace filter if it is damaged, fuel soaked, very dirty, or the rubber sealing edges are deformed.
4. If filter can be reused, be certain it:
 - Fits tightly in the air filter cavity.
 - Is installed with the original side out.
5. Install air filter cover.

NOTE

Carburetor adjustment may be needed after air filter cleaning/replacement.



FUEL FILTER

Level 1.

Tools required: 200-250 mm (8-10 in.) length of wire with one end bent into a hook, clean rag, funnel, and an approved fuel container

Parts required: 90008 REPOWER™ AIR & FUEL FILTER KIT

WARNING DANGER

Fuel is **VERY** flammable. Use extreme care when mixing, storing or handling.



1. Use a clean rag to remove loose dirt from around fuel cap and empty fuel tank.
2. Use the "fuel line hook" to pull the fuel line and filter from the tank.
3. Remove the filter from the line and install the new filter.



SPARK PLUG

Level 2.

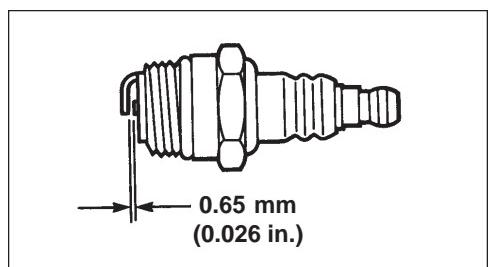
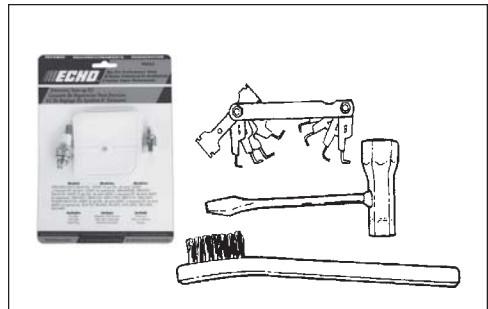
Tools Required: S wrench (combination socket wrench & screw driver)
Feeler gauge, preferably a wire gauge. Brush.

Parts Required: REPOWER™ Tune-Up Kit P/N 90074C

IMPORTANT

Use only NGK BPM-8Y spark plug (BPMR-8Y in Canada) otherwise severe engine damage may occur.

1. Remove spark plug and check for fouling, worn and rounded center electrode.
2. Clean the plug or replace with a new one. DO NOT sand blast to clean. Remaining sand will damage engine.
3. Adjust spark plug gap by bending outer electrode.
4. Tighten spark plug to 150-170 kg/cm (130-150 in. lb.).



COOLING SYSTEM

Level 2.

Tools required: Cross Head Screwdriver, 4 mm Hex Wrench, 25-50 mm (1 -2 in.) medium bristle paint brush.

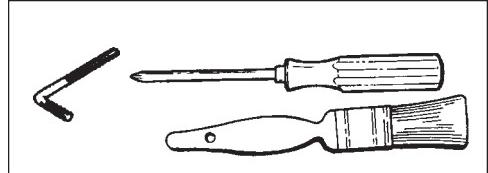
Parts Required: No parts are required if care is used during cleaning.

IMPORTANT

To maintain proper engine operating temperatures, cooling air must pass freely through the cylinder fin area. This flow of air carries combustion heat away from the engine.

Overheating and engine seizure can occur when:

- Air intakes are blocked, preventing cooling air from reaching the cylinder.
- Dust and grass build-up on the outside of the cylinder. This build up insulates the engine and prevents the heat from leaving.



Removal of cooling passage blockages or cleaning of cooling fins is considered "Normal Maintenance." Any failure attributed to lack of maintenance is not warranted.

1. Disconnect spark plug lead from spark plug.
2. Remove (1) screw from top guard, and remove guard.
3. Remove (3) screws from engine cover, and remove cover.



4. Use the wooden stick or brush to remove dirt from the cylinder fins.
5. Install engine cover properly, placing fuel vent tube into engine cover and deflector shield tabs (A) into slots in engine cover.
6. Secure engine cover with three (3) screws.
7. Install top guard, and secure with one (1) screw.
8. Connect spark plug lead to spark plug.



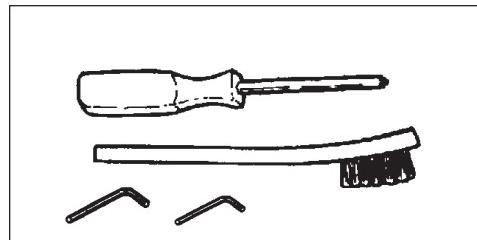
EXHAUST SYSTEM

Spark Arrestor Screen

Level 2.

Tools Required: Cross Head Screwdriver, Soft metal brush, 3 and 4 mm Hex Wrench

Parts Required: Screen, Gasket



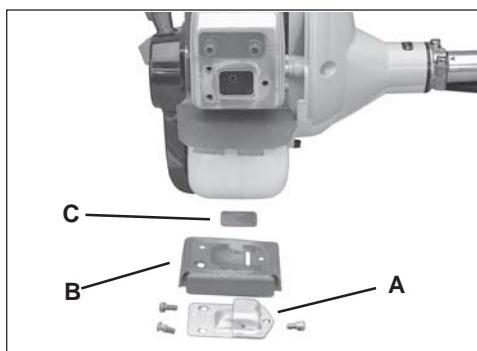
1. Disconnect spark plug lead from spark plug.
2. Remove (1) screw from top guard, and remove guard.
3. Remove (3) screws from engine cover, and remove cover.
4. Remove screen holder (A), gasket (B) and screen (C) from muffler body.



NOTE

When cleaning carbon deposits, be careful not to damage the catalytic element inside muffler.

5. Clean carbon deposits from muffler components.
6. Replace screen if it is cracked, plugged or has holes burned through.
7. Reassemble in reverse order of removal. Make sure screen is positioned properly before tightening screws.



CARBURETOR ADJUSTMENT

NOTE

New engines must be operated for a minimum of two tanks of fuel before carburetor adjustments can be made. During the break-in period your engine performance will increase and exhaust emissions will stabilize. Idle speed can be adjusted as required.

High Altitude Adjustment

High altitude adjustment is not required for proper operation of this engine.

Emissions Adjustments

Every unit is run at the factory and the carburetor is set in compliance with applicable emission regulations. This carburetor does not have acceleration and high speed adjustment needles.

Idle Speed Adjustment

Idle speed adjustment may be required periodically to comply with specifications for this unit. See page 31, "Specifications" for correct idle speed.

Level 2.

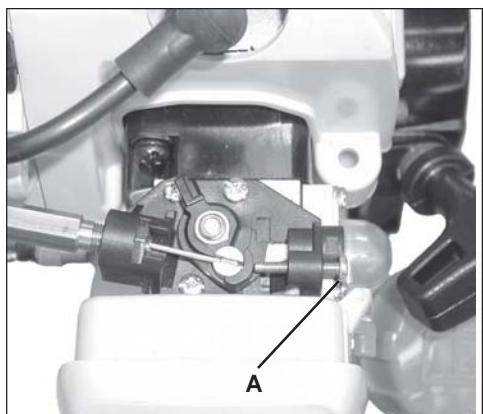
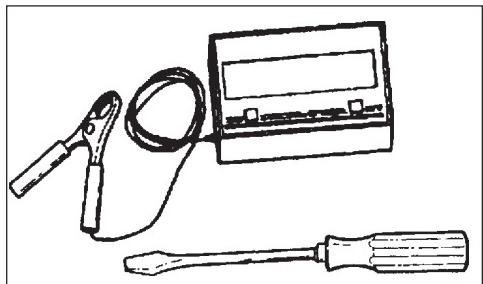
Tools required: Screwdriver, Tachometer (ECHO P/N 99051130017).

Parts required: None.

1. Check idle speed using a tachometer, and reset if necessary. Turn idle screw (A) clockwise to increase idle speed; counter-clockwise to decrease idle speed.

WARNING **DANGER**

When carburetor adjustment is completed, the cutting attachment should not turn at idle, otherwise serious personal injury may result.

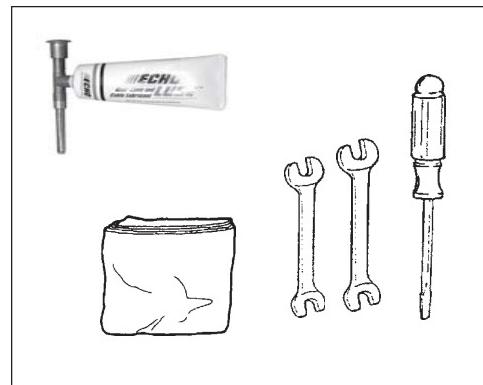


LUBRICATION

Level 1.

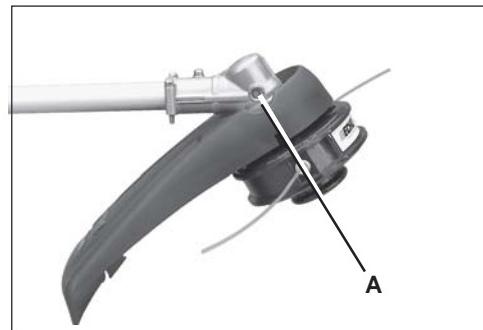
Tools required: 8 & 13 mm Open End Wrench, Cross Head Screwdriver, Clean rag, Grease gun P/N 91016

Parts Required: ECHO LUBE™ 8oz. (P/N 91014) or Lithium Base Grease.



Gear Housing

1. Clean all loose debris from gear box.
2. Remove plug (A) and check level of grease.
3. Add grease if necessary. DO NOT over fill.

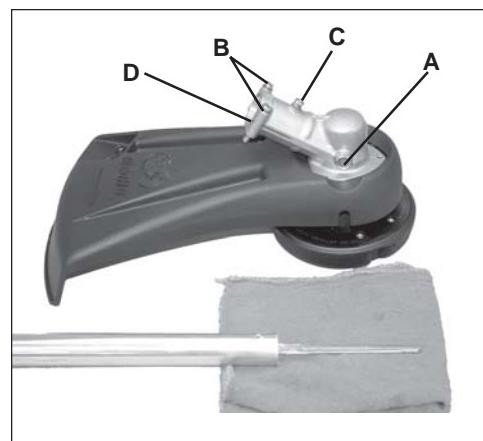


Drive Shaft

1. Loosen two (2) screws (B) and remove center locating screw (C). Pull gear box and shield from drive shaft housing.
2. Pull flexible cable from the drive shaft housing, wipe clean and recoat with a thin coating [15 ml (1/2 oz.)] of grease.
3. Slide the flexible cable back in the drive housing. DO NOT get dirt on the flex cable.
4. Install the gear housing and shield assembly.

IMPORTANT

Flat edge of washers (D) must be against drive shaft.



NYLON LINE REPLACEMENT

Level 1.

Parts Required: ECHO 2.4mm(0.095 in.) Nylon Trimmer Line 12m (40 feet [two 20 ft. sections])

Echomatic Pro Trimmer Head

1. Do not push spool in. Hold drum and turn spool clockwise until peg clicks and disappears from hole. Pull spool out of drum.
2. Place ends of two 20 ft. x .095 in. Crossfire™ trimmer lines into holes in spool, one on each side of barrier.
3. Wind both lines tightly and evenly (one on each side of barrier) in the direction of arrow on bottom of spool.
4. Place ends of lines into notches in spool, leaving 6 in. protruding.
5. Feed ends of line outward through eyelets in drum.
6. Turn inner drive so that pegs in drive align with grooves in spool, and push spool into drum
7. Hold spool and drum securely with one hand, and pull each line to disengage from notches.
8. Hold drum and twist spool counter clockwise until peg clicks into hole.
9. Trim lines to 8 in. length.



SHARPENING METAL BLADES

Three styles of metal blades are approved for use on the ECHO Brush Cutter. The 8-tooth blade can be sharpened during normal maintenance. The clearing blade and 80 tooth blade require professional service.

Before sharpening, CLOSELY inspect blade for cracks (look at the bottom of each tooth and the center mounting hole closely), missing teeth and bending. If ANY of these problems are discovered, replace the blade.

When sharpening a blade, always remove the same amount of materials from each tooth to maintain balance. A blade that is not balanced will cause unsafe handling due to vibration and can result in blade failure.

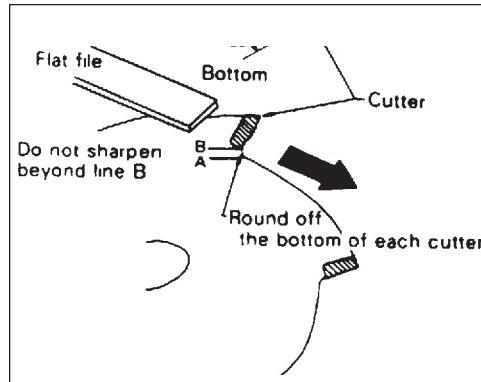
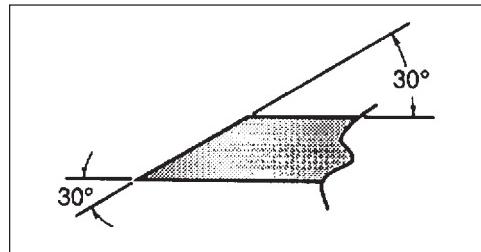
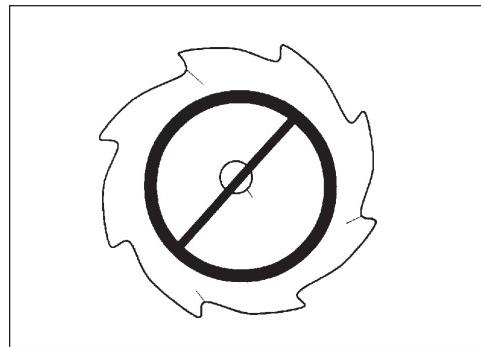
Tool required: Flat file (preferred). Electric grinder if special care is used. Round (rat tail) file for gullet (radius).

1. File each tooth at a 30 degree angle a specific number of times, eg. 4 strokes per tooth. Work your way around the blade until all teeth are sharp.
2. DO NOT file the 'gullet' (radius) of the tooth with the flat file. The radius must remain. A sharp corner will lead to a crack and blade failure.

IMPORTANT

If an electric grinder is used, use care not to overheat teeth, do not allow tips/tooth to glow red or turn blue. DO NOT place blade in cooling water. This will change the temper of the blade and could result in blade failure.

3. After sharpening teeth, check each tooth radius for evidence of a square (sharp) corner. Use the round (rat tail) file to renew the radius.



TROUBLESHOOTING

ENGINE PROBLEM TROUBLESHOOTING CHART

Problem	Check	Status	Cause	Remedy
Engine cranks - starts hard/ doesn't start	Fuel at carburetor	No fuel at carburetor	Fuel strainer clogged Fuel line clogged Carburetor	Clean or replace Clean or replace See your Echo dealer
	Fuel at cylinder	No fuel at cylinder	Carburetor	See your Echo dealer
		Muffler wet with fuel	Fuel Mixture too rich	Open choke Clean/replace air filter Adjust carburetor See your Echo dealer
	Spark at end of plug wire	No spark	Stop switch off Electrical problem Interlock switch	Turn switch to ON See your Echo dealer See your Echo dealer
Engine runs, but dies or does not accelerate properly	Spark at plug	No spark	Spark gap incorrect Covered with carbon Fouled with fuel Plug defective	Adjust to .65mm (0.026 in.) Clean or replace Clean or replace Replace plug
	Air filter	Air filter dirty	Normal wear	Clean or replace
	Fuel filter	Fuel filter dirty	Contaminants/residues in fuel	Replace
	Fuel vent	Fuel vent plugged	Contaminants/residues in fuel	Clean or replace
	Spark Plug	Plug dirty/worn	Normal wear	Clean and adjust or replace
	Carburetor	Improper adjustment	Vibration	Adjust
	Cooling System	Excessive dirt/debris	Extended operation in dirty/dusty locations	Clean
Engine does not crank	Spark Arrestor Screen	Screen cracked, plugged, or perforated	Normal wear	Replace
	N/A	N/A	Internal engine problem	See your Echo dealer

WARNING  DANGER

Fuel vapors are **extremely** flammable and may cause fire and/or explosion. **Never** test for ignition spark by grounding spark plug near cylinder plug hole, otherwise serious personal injury may result.

STORAGE

WARNING ! DANGER

During operation the muffler or catalytic muffler and surrounding cover become hot. Always keep exhaust area clear of flammable debris during transportation or when storing, otherwise serious property damage or personal injury may result.

Long Term Storage (over 30 days)

Do not store your unit for a prolonged period of time (30 days or longer) without performing protective storage maintenance which includes the following:

1. Store unit in a dry, dust free place, out of the reach of children.

WARNING ! DANGER

Do not store in enclosure where fuel fumes may accumulate or reach an open flame or spark.

2. Place the stop switch in the "STOP" position.
3. Remove accumulation of grease, oil, dirt and debris from exterior of unit.
4. Perform all periodic lubrication and services that are required.
5. Tighten all the screws and nuts.
6. **Drain** the fuel tank **completely** and pull the recoil starter handle several times to remove fuel from the carburetor.
7. Remove the spark plug and pour 7 cc (1/4 oz.) of fresh, clean, two-stroke engine oil into the cylinder through the spark plug hole.
 - A. Place a clean cloth over the spark plug hole.
 - B. Pull the recoil starter handle 2-3 times to distribute the oil inside the engine.
 - C. Observe the piston location through the spark plug hole. Pull the recoil handle slowly until the piston reaches the top of its travel and leave it there.
8. Install the spark plug (do not connect ignition cable).

SPECIFICATIONS

MODEL	SRM-210U
Length	1770mm(69.7in.)
Width	700 mm(27.68in.)
Height	455 mm(17.9in.)
Weight (dry) w/Cutter Head	5.94kg (13.1lb.)
Engine Type	Air cooled, two-stroke, single cylinder gasoline engine
Bore	32.2mm(1.27in.)
Stroke	26.0mm(1.02in.)
Displacement	21.2 cc (1.29 cu. in.)
Exhaust	Spark Arrestor Muffler with catalyst
Carburetor	Zama diaphragm model w/purge pump
Ignition System	Flywheel magneto, capacitor discharge ignition type
Spark Plug	NGK BPMR-8Y (Gap 0.65 mm (0.026in.))
Fuel	Mixed (Gasoline and Two-stroke Oil)
Fuel/Oil Ratio	50:1 two-stroke air cooled engine oil
Gasoline	89 Octane unleaded. DO NOT use fuel containing methyl alcohol, more than 10% ethyl alcohol or 15% MTBE.
Oil	Power Blend™ Premium Universal 2-Stroke Oil
Fuel Tank Capacity	0.45 lit. (15.2 US fl. oz.)
Starter System	Automatic Rewind Starter
Clutch	Centrifugal Type
Vibration Isolated System	Rubber cushion on engine mount (heavy duty). Rubber grip on front handle.
Operating Rod	25.0 mm aluminum Tube
Drive Shaft	6.35 mm (1/4 in.) flexible shaft
Gear Case Ratio	1.4:1 Reduction
Rotating Direction	Counter Clockwise; viewed from top
Cutter Head	Semi-Auto Nylon line head (2-line) with .095 Crossfire™ Line capacity 6 m (20 ft.), 8 tooth weed and grass blade
Handle*	U-Handle
Shoulder Harness w/hip pad	Standard
Idle Speed	2,400-3,200 RPM
Wide Open Throttle Speed (W.O.T.) with Nylon Line Head	8,000-10,000 RPM
Wide Open Throttle Speed (W.O.T.) with Blade	9,000-11,500 RPM

IMPORTANT

This spark ignition system complies with Canadian ICES-002

* Install and use U-Handle when operating any model with blade.

SERVICING INFORMATION

PARTS/SERIAL NUMBER

Genuine ECHO Parts and ECHO REPOWER™ Parts and Assemblies for your ECHO products are available only from an Authorized ECHO Dealer. When you do need to buy parts **always** have the Model Number and Serial Number of the unit with you. You can find this information on the engine housing. For future reference, write them in the space provided below.

Model No. _____ S.N. _____

SERVICE

Service of this product during the warranty period must be performed by an Authorized ECHO Service Dealer. For the name and address of the Authorized ECHO Service Dealer nearest you, ask your retailer or call: 1-800-432-ECHO (3246). Dealer information is also available on our Web Site. When presenting your unit for Warranty service/repairs, proof of purchase is required.

ECHO CONSUMER PRODUCT SUPPORT

If you require assistance or have questions concerning the application, operation, or maintenance of this product, you may call the ECHO Consumer Product Support Department at 1-800-673-1558 from 8:30 am to 4:30 pm (Central Standard Time) Monday through Friday. Before calling, please know the model and serial number of your unit to help your Consumer Product Support Representative.

WARRANTY REGISTRATION

You may register your Echo equipment using the warranty registration card or register on-line at www.echo-usa.com. Registering provides a direct link between you and ECHO if we find it necessary to contact you.

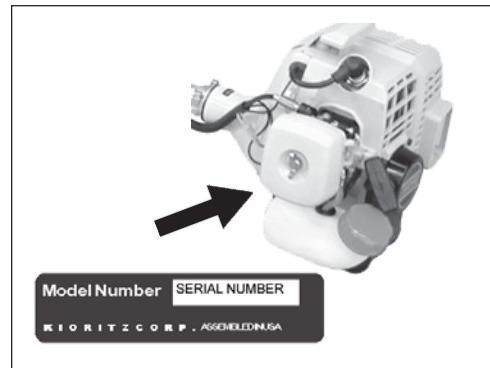
ADDITIONAL OR REPLACEMENT MANUALS

Safety Manuals in English/Spanish or English/French are available, free of charge, from your ECHO dealer or at www.echo-usa.com.

Operator's and Parts Manuals are available by:

- Downloading free from www.echo-usa.com
- Purchasing from your Echo Dealer.
- Manuals are available by sending a written request stating the model number and serial number of your Echo unit, part number of the manual, your name and address, and mail to the address below.

Safety Videos are available from your Echo dealer. A \$5.00 shipping charge will be required for each video.



DEALER?

CALL

1-800-432-ECHO

OR

www.echo-usa.com

CONSUMER PRODUCT SUPPORT

1-800-673-1558

8:30 - 4:30 MON - FRI C.S.T.



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